AMENDMENTS TO THE DRAWINGS:

Please find accompanying this response a replacement sheet for Fig. 1 wherein amendments explained in the Remarks presented below are effected.

REMARKS

Claims 1, 2, 5-9 and 11-26 are pending.

The drawings have been objected to and Applicant has amended Fig. 1 to include an illustration of the cylindrical chamber and amended Claim 25 to remove the reference to the mixing and residence chambers. Accordingly, Applicant respectfully asserts that the objections have been overcome. Moreover, the specification has been amended to reference the chamber as element 101. No new matter has been inserted in the specification by the amendments hereto.

Claims 1, 25 and 26 have been objected to and Applicant has provided line indentations to overcome the objection.

Claims 18-23 and 25 are rejected under 35 USC § 112, first paragraph. and claims 20-23 are rejected under 35 USC § 112, second paragraph. Regarding claims 20-23, the Examiner is uncertain about the definition of a "start." Applicant has amended the claim so that a "start" now reads a "conveying element". However, Applicant notes that the conveying elements therein are not limited to elements 2-15. Rather, as indicated on page 6, bottom paragraph, the relevant conveying elements include "the first conveying elements (21-72) and the

further conveying elements (2-15) along the product-conveying direction at the shaft (1)." Moreover claims 18, 19 and 25 have been amended to overcome the rejection under § 112, first paragraph.

Claims 1-6 and 10-14 are rejected under 35 USC § 102(b) as being anticipated by August (USPN 2,806,680). Applicant respectfully traverses the rejections as follows.

Claims 1 and 25 have been amended to recite:

> "conveying elements axially spaced from one another to form a discontinuous web, the conveying elements being axially spaced discrete paddles or beaters...
>
> the first flight being divided into at least two axially spaced partial flights at least in axially spaced partial regions of said shaft, each partial flight including a plurality of said axially spaced discrete paddles or beaters"

Applicant respectfully asserts that August fails to teach such limitations. That is, August fails to teach axially spaced partial flights, each of which

containing axially spaced discrete paddles or beaters. Rather, Figure 1 and column 3, lines 20-65 of August illustrate and disclose a *continuous* helical blade 11 and blades 9 and 10 that "alternate with one another and in combination form a *continuous* worm..." (line 37). Further evidence that the August elements are not discrete and axially spaced is the "helical steel strip 13" which bridges successive blade members (line 44). Accordingly, the claims recite limitations not taught by August so that the reference fails to anticipate the claims. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051 (Fed. Cir. 1987) ("a claim is anticipated only if each and every element as set forth in the claim" is found in the cited prior art reference). *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USP2d 1913, 1920 (Fed. Cir. 1989) (an anticipating reference must show "the identical invention...in as complete detail as is contained in the claim").

Claims 7-9 are rejected under 35 USC § 103(a) as being unpatentable over August as modified by Bredeson (USPN 3980013) where Bredeson is cited for teaching:

> "the slope of flight 52 increasing in the product-conveying direction (fig. 1) for the purpose of allowing space for the second flight (38) to

obtain a tearing, shearing and working action of the material and to cause it to move in an axial direction so that it is eventually discharged".

Moreover, August cannot be modified to render the blades "axially spaced" or "discrete" because, for example, August requires the strip 13 to connect the blades "to prevent[] the blades 9 from becoming worn out within a relatively short period of time and avoid[] the accumulation and setting of material on the inner wall of the trough 3." *In re Larson,*340 F.2d 854, 144 U.S.P.Q. 347(CCPA 1965) (a reference cannot be modified to eliminate a desired feature). Furthermore, August requires the placement of *continuous* blade 11 at the surface of the shaft to assist in thoroughly mixing the mixture components by conveying material "in a direction opposite the conveyance direction of outer screw members" (line 56). Removing this continuous blade would render August incapable of performing the required mixing function at the shaft so that such a modification is not permitted. *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984) (a proposed modification to a reference cannot render the reference unsatisfactory for its intended purpose)

Based on the above analysis, Applicant asserts that a skilled artisan reviewing August would utilize continuous elements 11 or connecting the elements

to form a continuous worm (via the bridging edge 13) rather than utilizing the discrete, axially spaced elements. Accordingly, such modifications to August are not permitted. *In re Leonard R. Kahn*, 441 F.3d 997 (Fed. Cir. 2006) (a reference teaches away when the skilled artisan would be "discouraged from following the path set out in the reference, or would be led in a direction divergent from the path taken by the applicant").

Claims 16, 17 and 24 are rejected as being unpatentable over August as modified by Martin (USPN 4467967) where Martin is cited for offsetting blades "by 90 degrees relative to one another for the *purpose of providing proper spacing to convey material in the conveying direction*". Claims 20-23 are rejected as being unpatendable over August as modified by Yoshida (EP 1084808 A1) which is cited for teaching an increased number of starts in the downstream direction.

Applicant respectfully traverses these rejections as follows.

Turning to Bredeson, Applicant respectfully asserts that the Examiner's interpretation of the reference is not correct. Unlike what is asserted by the Examiner, the reference does not teach:

"the slope of flight 52 increasing in the product-conveying direction (fig. 1) for the purpose of allowing space for the second flight (38) to obtain a tearing, shearing and working action of the material and to cause it to move in an axial direction so that it is eventually discharged".

Rather, the reference specifically teaches:

"breaker lugs 54, which are attached to the inner wall of the cage 22, [and] are provided between the worms to restrain rotation of the material with the collars 38, *and to cooperate with the worm flights 52* to obtain *tearing, a tearing, shearing and working action of the material and to cause it to move in an axial direction so that it is eventually discharged."*

Accordingly, using the same text cited by the Examiner, Bredeson requires the use of *lugs* 54 to perform the action which the Examiner is attributing to the slope of the flight. As the Examiner has incorrectly interpreted the clear language of Bredeson, the rejection based on Bredeson is not correct.

Regarding Martin, the claims now recite that the "first conveying elements transporting the product in[[a]]an axially extending product-conveying direction". This is an entirely disparate feature than that taught by Martin which provides for configuring a manure spreader to provide a "(radially) outward spray pattern of up to sixty feet" (col. 6, ln. 1). Accordingly, the combination of August and Martin fails to teach each recited limitation and the rejection is not proper. *In re Royka*, 490 F.2d 981,180 U.S.P.Q. 580 (C.C.P.A. 1974) (a *prima face* case of obviousness is established only where the combination of cited references teaches or suggests each limitation in the claim).

Moreover, Martin does not teach offsetting blades "by 90 degrees relative to one another for the *purpose of providing proper spacing to convey material in the conveying direction*". Rather, Martin specifically counters this position by stating that the rotational offset is provided "[i]n order to reduce peak horsepower requirements [the blades are offset] so that the bit of each blade into the manure fed from outlet 48 occurs at different times." Accordingly, as indicated, the reference neither teaches the claimed configuration nor suggests a configuration which is derived for the purpose considered by Applicant. As such, modifying August with Martin fails to render the pending claims unpatentable. *In re Vaeck*,

947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991) (there must be a suggestion or motivation to modify the references to provide the claimed invention).

Moreover, Applicant respectfully notes the following distinguishing features of the invention:

a) an essentially cylindrical chamber having an axis, at least one shaft disposed in said chamber, which extends along the axis of the chamber, said shaft having a plurality of first conveying elements;

b) the number of partial flights increases in the product-conveying direction;

c) the conveying elements are paddles or beaters;

d) the shaft 1 has a partial region B with first conveying elements 21-72, which are spaced apart uniformly in the axial direction as well as the circumferential direction to the shaft 1 (page 9, second paragraph);

e) in the region of the outlet end of the shaft 1, there is a further partial region A, in which further elements 2-15 are disposed at the shaft 1. (page 9, second paragraph);

f) in the partial region A, the further elements 2 to 15 are disposed much closer together than in the partial region B (page 11, second paragraph); and

g) the plug-like accumulations of flowable product, originating from partial region B are namely divided gradually by the conveying elements 2 to 15, which are disposed relatively close together (page 12, paragraph 1).

The combined disclosure of August and Yoshida fails to provide the combination of the above features of as provided in Claims 1 and 25. That is, August does not disclose features a), b), c), f) and g) and Yoshida does not disclose features a), b), c) and g). Further, August discloses conveying elements in the form of blades rather than paddles or beaters. Yoshida discloses agitating blades 8a with the blade plane extending in parallel to the longitudinal axis and conveying direction. These agitating blades 8a do not have any conveying effect. Also, Yoshida discloses a ribbon screw 8b rather than the claimed elements for providing a conveying effect. Moreover, neither August nor Yoshida disclose plug-like accumulations being divided gradually by the conveying elements in partial region B. Further, feature b), which is recited in the claims differs from the arrangement of the elements on the shafts of August and Yoshida. As described on page 3, paragraph 2 of the description, this arrangement allows for a constantly increasing division of the product accumulations formed in the transporting path within the conveying device, so that a highly evened-out ejection

of product with only a slight "residual unevenness" is achieved. Neither in August nor in Yoshida is there such an increase in the number of partial flights.

Only the arrangement of conveying elements in the present invention provides for flights within the space between adjacent flights such that any product accumulations that may form in this space between adjacent flights will be split by the additional flight in between these adjacent flights. This effect is the result of the upstream end of each additional flight along the product conveying direction.

Based on the differences between the invention and the art, Applicant respectfully asserts that the art fails to teach each claimed limitation so that the claims are patentable over the art.

Applicant respectfully requests a two month extension of time for responding to the Office Action. **The fee of $450.00 for the extension is provided for in the charge authorization presented in the PTO Form 2038, Credit Card Payment form, provided herewith.**

If there is any discrepancy between the fee(s) due and the fee payment authorized in the Credit Card Payment Form PTO-2038 or the Form PTO-2038 is

missing or fee payment via the Form PTO-2038 cannot be processed, the USPTO is hereby authorized to charge any fee(s) or fee(s) deficiency or credit any excess payment to Deposit Account No. 10-1250.

In light of the foregoing, the application is now believed to be in proper form for allowance of all claims and notice to that effect is earnestly solicited.

Respectfully submitted,

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Enc.: Marked Specification
Substitute Specification
Replacement Drawing Sheet Fig. 1